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Ron Neerings  
Texas Instruments Incorporated  
P O Box 655474 M/S 3999  
Dallas, TX 75265

EXAMINER

TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/671,326

Applicant(s)

CHENG ET AL.

Examiner

Khanh Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis U.S. Patent 6,498,806 B1.

Regarding claim 1, Davis discloses in figure 6 a shared ADSL modem 210 including analog front ends 212, each of which is adapted to couple to a workstation 216 through an ADSL client modem 216. The analog front ends 212 are inherently coupled to a transceiver (not shown in the figure) residing in the shared ADSL modem 210. Hence, any one of analog front ends 212 is the first interface as claimed. The shared ADSL modem 210 then communicates with the digital interface 200 which provides information from the multiple local loops connected to the analog front ends 212 to another network. The analog front ends and digital interface 200 are inherently part of the shared ADSL modem 210 even though they are shown separate from the shared ADSL modem 210. Clearly, the digital interface 200, which is considered to be a second interface, is adapted to couple to multiple local loops connected through the

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analog front ends 212. From figure 6, one of the local loops could be designated a master loop, the rest is second shared communications loops. Each loop is adapted to serve a workstation 216 through the ADSL client modem 216, hence, one of the workstation 216 could be considered as a second terminal as claimed.

Regarding claim 2, from figure 6, each workstation 216 is located remotely from each other.

Regarding claim 3, the shared ADSL modem 210 inherently exchanges information in a format compatible with ADSL standards.

Regarding claim 4, from figure 6, each workstation 216 exchanges information over the local loop to which the workstation 216 is connected through the analog front end 212 to the digital interface 200 and back to another local loop in format compatible ADSL standards.

Regarding claim 5, as recited in claim 1, each workstation 216 exchanges information through an ADSL client modem 216, hence, in a format compatible with ADSL standards. Furthermore, the shared ADSL modem 210 exchanges information over each local loop while each work station 216 exchanges information over other loop (shared loop) through the analog front end 212 to the digital interface 200 and back.

Regarding claim 6, since the shared DSL modem 210 is located at the central office, the shared DSL modem 210 is inherently configured to simultaneously communicate over local loops 218 and with the central office.

Regarding claim 7, Davis teachings further disclose in another embodiment that the shared ADSL modem 210 separates bandwidth via Time Division Multiplexing (TDM) between all active clients.

Regarding claim 8, figure 3 illustrates the shared DSL modem 30 adapted to utilize multiple downstream frequency bands to achieve optimum performance. The clients PCs 29 receive the shared downstream signal. Figure 4 illustrates DSL outbound share signal.

Regarding claim 9, from figure 6, the shared ADSL modem 210 is, at design choice, adapted to share any local loop 218 for both upstream and downstream communication information.

Regarding 10, the local loops in figure 6 are individual twisted pair local loop.

Regarding claim 11, an optional POTS interface to each analog front end 212 separates voice information from ADSL information. Hence, the digital interface 200 is adapted to exchange voice information via the optional POTS interface.

2. Claim 12-14 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Counterman U.S. Patent 6,310,894.

Regarding claim 12, Counterman discloses in figure 4 an illustration of telephone network wiring incorporating service multiplexing over a bus topology bridged tap. At customer premise 1 140, even though the figure does not show a first modem, however, an ADSL modem could be inherently installed there to serve a first communications terminal (e.g. a PC). Similarly, at customer premise 2 142, an ADSL is adapted to serve

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a second communications terminal. At the central office, which is a network node as claimed, an ADSL modem 122 is coupled to customer premise 1 140 through the common metallic pair 112 and drop cable 1, and is coupled to customer premise 2 142 through the common metallic pair 112 and drop cable 2. Clearly, the first modem at customer premise 1 140 is also coupled to the ADSL modem 122 through a portion of the common metallic pair 102.

Regarding claim 13, as recited in claim 12, the first ADSL modem inherently installed in customer premise 1 140 exchanges information with the ADSL modem 122 at central office compatible wit ADSL standards.

Regarding claim 14, referring to figure 4, the first terminal at customer premise 1 is inherently adapted to exchange communications information simultaneously over both first loop (through drop cable 1 to the common metallic pair 112) and second loop, which is through the portion of the common metallic pair 102. It would be inherently that the combined bandwidth would be higher than the bandwidth available over a single communication loop.

Regarding claim 16, assuming said claim dependent on claim 12 for the purpose of art rejection, referring to figure 4, the first modem at coupled to customer premise 1 could be easily configured to receive downstream communications through the portion of the common metallic pair 112.

Regarding claim 17, referring to figure 4 again, the first modem at coupled to customer premise 1 inherently receives upstream and downstream communications through the portion of the common metallic pair 112.

Regarding claim 18, both loops from the central office to customer premise 1 and customer premise 2 are twisted pair of conductors as described in Counterman invention.

Regarding claim 19, said claim is rejected using similar rejection argument of claim 12. Furthermore, the first terminal at customer premise 1 inherently exchanges communications information simultaneously over both first loop (through drop cable 1 to the common metallic pair 112) and second loop, which is through the portion of the common metallic pair 102. The second loop serves customer premise 2.

Regarding claim 20, the telephone network wiring incorporating service described in Counterman invention is compatible with ADSL standards.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Counterman U.S. Patent 6,310,894.

Regarding claim 15, figure 4 only illustrates either an ADSL modem or a telephone installed at the customer premise, however, both ADSL modem and a telephone are always utilized at the customer premise. The use of a splitter separating ADSL communication information from voice communications are well known in the art

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and has been mentioned in numerous US Patents, therefore, it would have been obvious to one of ordinary skill in the art that the a splitter could be installed at customer premise for separating voice and ADSL communications information.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 is indefinite since the claim specifies both a method and an apparatus; it is unclear that the applicant is intending to encompass a method or an apparatus.

Claim 19 is rejected under 35 U.S.C. 101 because the claim intends to encompass both a method and an apparatus, resulting in an improper claim.

### ***Claim Objections***

5. Claims 16-17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.



***Conclusion***

6. The prior art made of record and not relied upon could be considered pertinent to applicant's disclosure:

Smith et al. U.S. Patent 5,901,205 discloses "Adaptive Voice and Data Bandwidth Management System for Multiple Line Digital Subscriber Loop Data Communications".

Norrell U.S. Patent 6,507,608 B1 discloses "Multi-line ADSL Modulation".

Alpert et al. U.S. Patent 6,259,775 B1 discloses "Multi-line Modem Interface".

Gizara et al. U.S. Patent 6,075,845 discloses "System and Method for Performing Telephone Line-In-Use Detection, Extension Pick-Up Detection, and Remote Hang-Up Detection in a Modem".

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT

M. GJ  
MOHAMMAD H. GHAYOUR  
PRIMARY EXAMINER